

Claims

What is claimed is:

1. A rotatable board boot binding attachment device for securing a sports board boot binding to a sports board and for permitting angular adjustment and alternate rotation and
5 nonrotation of the board boot binding relative to the board, comprising:
a pair of rigid plates including a circular base plate adapted to be secured to the sports board and a rotatable plate for receiving the board boot binding to be secured thereto, the rotatable plate being positioned above the base plate and being rotatably connected to the base plate by a pivotable means, the rotatable plate
10 having a binding retaining means for receiving and securing a board boot binding selected from a variety of board boot bindings of various sizes and shapes, the binding retaining means being configured to receive and retain any of a variety of sizes and shapes of the board boot bindings and confine the board boot binding to a single stationary position on the rotatable plate to prevent horizontal movement of
15 the board boot binding relative to the rotatable plate;
a locking assembly for locking the rotatable plate in selected positions of angular adjustment relative to the base plate and for selectively maintaining the rotatable plate in either a locked mode, in which the rotatable plate is prevented from rotating relative to the base plate or a released mode, in which the rotatable plate is
20 free to rotate relative to the base plate, the locking assembly including a locking ring formed by a plurality of locking holes extending through a circumferential portion of the base plate, an opening extending through the rotatable plate and alignable with the locking holes in the selected positions of angular adjustment, and a locking shaft capable of alternating between a locked position extending
25 through the opening of the rotatable plate into one of the plurality of locking holes

in the base plate to retain the rotatable plate in the locked mode wherein rotation of the rotatable plate is prevented, and an unlocked position with the locking shaft retracted from the one of the plurality of locking holes in the base plate to put the rotatable plate in the released mode, thereby permitting angular adjustment of the board boot binding relative to the board;

a safety means incorporated in the base plate and the rotatable plate, the safety means capable of limiting the degree of relative rotation therebetween to permit the board boot to turn within a safe limit and prevent the board boot from turning beyond the safe limit, the safety means comprising one of the pair of rigid plates having a groove therein in the shape of an arc of a circle and the other of the pair of the rigid plates having a mating pin protruding therefrom, the pin engaging the groove and thereby limiting the degree of relative rotation of the rigid plates to the degree of the arc of the circular groove, and at least one movable stop positionable within the groove to divide the groove into at least two smaller arcs so that the pin is limited to rotating within at least one first smaller arc and alternately with the stop moved to allow the pin to relocate into at least one second smaller arc with the stop pin repositioned in the groove so that the pin is limited to rotating within the at least one second smaller arc.

2. The device of claim 1 wherein the pivotable means comprises one plate having a protruding cylindrical post with an annular groove and the other plate having a mating circular opening for encircling the cylindrical post, and a C-clamp for insertion in the annular groove to hold the plates rotatably together.

3. The device of claim 1 wherein the locking assembly further comprises a tension means for biasing the locking shaft toward the base plate and the locking shaft further comprises at least one lateral protrusion extending therefrom, a locking base attached to the rotatable plate, the locking base having a vertical opening therethrough to admit the locking shaft fitting slidably therein and the locking base further comprising an upper shaft engaging means for engaging the at least one lateral protrusion of the locking shaft in an upper position with the locking shaft disengaged from the base plate and a lower shaft engaging means for engaging the at least one lateral protrusion of the locking shaft in a lower position with the locking shaft engaging the base plate.
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4. The device of claim 3 wherein the locking base comprises a solid sleeve having an angled top rim with a notch opening in the top of the angled rim and a V-configuration at the bottom of the angled rim, wherein the notch opening comprises the upper shaft engaging means and the V-configuration comprises the lower shaft engaging means and the at least one lateral protrusion of the locking shaft comprises an L-shaped handle protruding laterally from the locking shaft, the L-shaped handle capable of being secured alternately in the notch and the V-configuration.
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5. The device of claim 1 further comprising at least one low friction element between the rotatable plate and the base plate to facilitate rotation therebetween.
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6. The device of claim 5 wherein at least one of the plates further comprises at least one circular groove, on a face adjacent to the other of the plates and the at least one low friction element comprises at least one ring fabricated of low friction material, the at least

one ring capable of fitting within the at least one circular groove to provide at least one low friction contact surface between the plates.

7. The device of claim 5 wherein one of the plates is provided with a series of
5 indented openings and the at least one low friction element comprises a series of low friction elements capable of being inserted in the series of indented openings.

8. The device of claim 1 wherein the rotatable plate further comprises a smooth
information surface capable of displaying information thereon visible on the top of the
10 rotatable plate.

9. The device of claim 1 further comprising a rotation position indicator pointer
means on the rotatable plate capable of being used with a graduated sticker means on the
board to indicate the degree of rotation of the rotatable plate.

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10. The device of claim 1 further comprising a cord means capable of being attached
to the locking shaft so that the cord means is capable of being grasped by a user to
operate the locking means from a standing position and the locking means further
comprises a means for attaching the cord means.

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11. The device of claim 10 wherein the locking shaft is provided with a top ring which
comprises the means for attaching the cord means.

12. The device of claim 1 wherein the rotatable plate further comprises a peripheral, downwardly projecting ridge forming an overhanging means over the base plate to keep dirt out from between the plates.

5 13. The device of claim 1 further comprising an inner grease ring to keep dirt out of the pivotable means between the two plates.

14. The device of claim 1 wherein the lock ring is elevated above the board to prevent water and ice from collecting in the locking holes.

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15. The device of claim 1 wherein the one of the pair of rigid plates having the groove is provided with a series of angle set screw holes around the periphery of the one of the pair of rigid plates which angle set screws holes communicate between the periphery and the groove so that the at least one angle set screw is capable of being screwed in at least
15 one of the holes so that the set screw protrudes into the groove to create a stop for the pin to allow presetting of the amount of rotation between the plates.